

WHAT IS CLAIMED IS:

1. A holographic optical element comprising:
a pair of board-shaped transparent members
arranged with a distance facing with each other;
5 transparent electrodes formed on the respective
transparent members and facing with each other;
a liquid crystal an orientation of which is
changeable; and
a liquid crystal an orientation of which is fixed;
10 the orientation changeable liquid crystal and the
orientation-fixed liquid crystal being arranged
alternately with a striped shape between the
transparent members on which the transparent electrodes
are formed facing with each other.

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2. The holographic optical element according to
claim 1, wherein the orientation-fixed liquid crystal
is an ultraviolet-setting liquid crystal.

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3. The holographic optical element according to
claim 2, wherein the holographic optical element
diffracts light upon applying no-voltage since the
orientation of the liquid crystal and the orientation
of the orientation-fixed liquid crystal are different
25 upon applying no-voltage, and upon applying voltage,
the orientation of the liquid crystal varies so that
the orientation of the liquid crystal and the

orientation of the orientation-fixed liquid crystal become the same.

4. The holographic optical element according to
5 claim 2, wherein the holographic optical element
diffracts light upon applying voltage since the
orientation of the liquid crystal and the orientation
of the orientation-fixed liquid crystal are different
upon applying voltage, and upon applying no-voltage,
10 the orientation of the liquid crystal varies so that
the orientation of the liquid crystal and the
orientation of the orientation-fixed liquid crystal
become the same.

15 5. A viewfinder display of a camera displaying
given information together with an object image with
superimposed manner, the viewfinder display using the
holographic optical element according to any one of
claim 1 through 4.

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6. The viewfinder display of a camera according to
claim 5, wherein the transparent electrodes are
arranged on the transparent members such that the
transparent electrodes form a figure shape and a letter
25 shape, and the figure and the letter are displayed as
the given information.

7. The viewfinder display of a camera according to claim 5, wherein the transparent electrodes are arranged on the transparent members such that the given information is displayed as a dot-matrix.

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8. A viewfinder display of a camera displaying given information together with an object image with superimposed manner, the viewfinder display using in combination with a plurality of holographic optical elements according to any one of claim 1 through 4.

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9. A camera arranging the viewfinder display of a camera according to claim 5 in the vicinity of a screen.

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10. A camera arranging the viewfinder display of a camera according to claim 8 in the vicinity of a screen.